

**THE PLANNING PROCESS TO DEVELOP A
WATER USE MANAGEMENT PLAN
FOR THE
NICOLA WATERSHED**

*A description of the watershed
and
a brief history of Nicola WUMP*

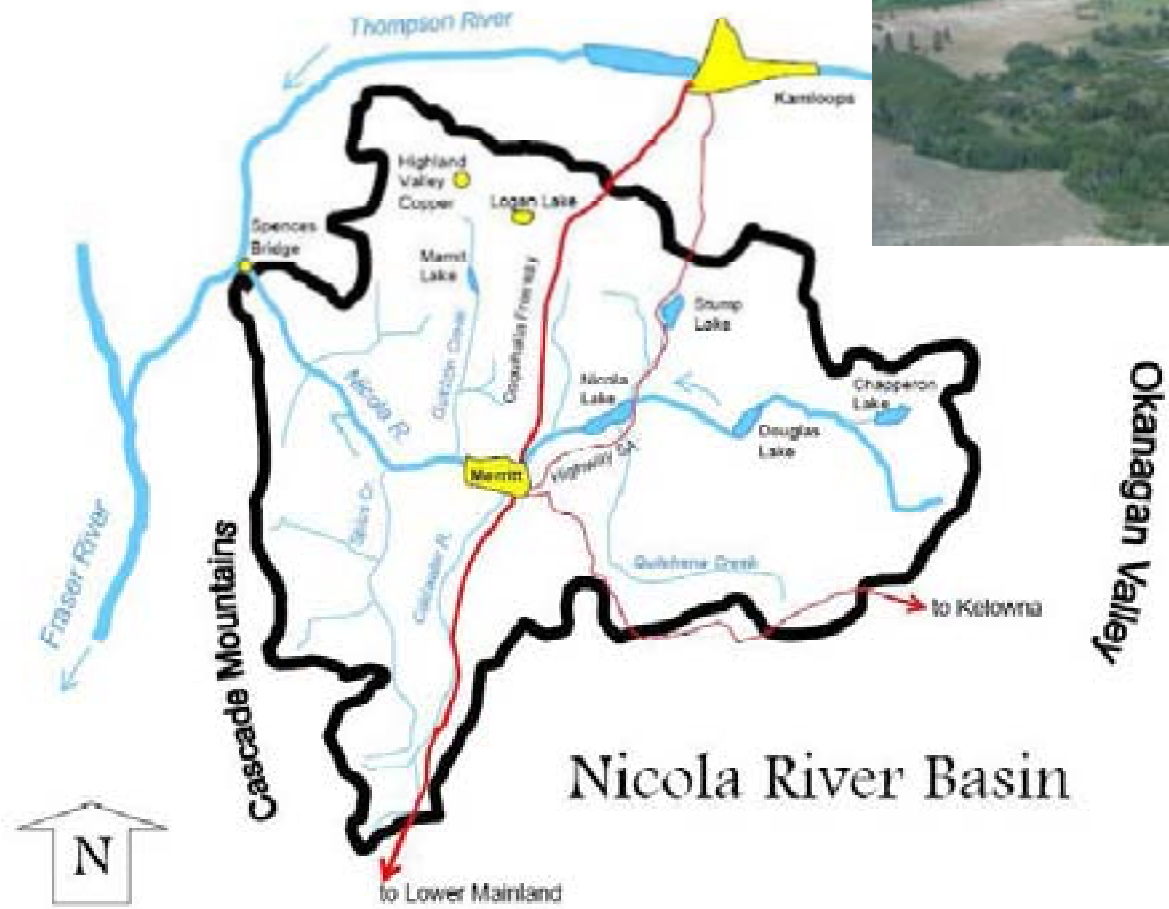
TOPICS

- PART A – The Nicola watershed
 - Watershed description
 - Water licences by sub-basin
 - Water budget by sub-basin
 - Impact of MPB
 - Projected future water demand

- PART B – Nicola WUMP



THE NICOLA WATERSHED



THE NICOLA WATERSHED

- Size: 728,000 hectares
1.8 million acres
7,220 square km
- Physiography
- Sub-basins: 10



THE NICOLA WATERSHED

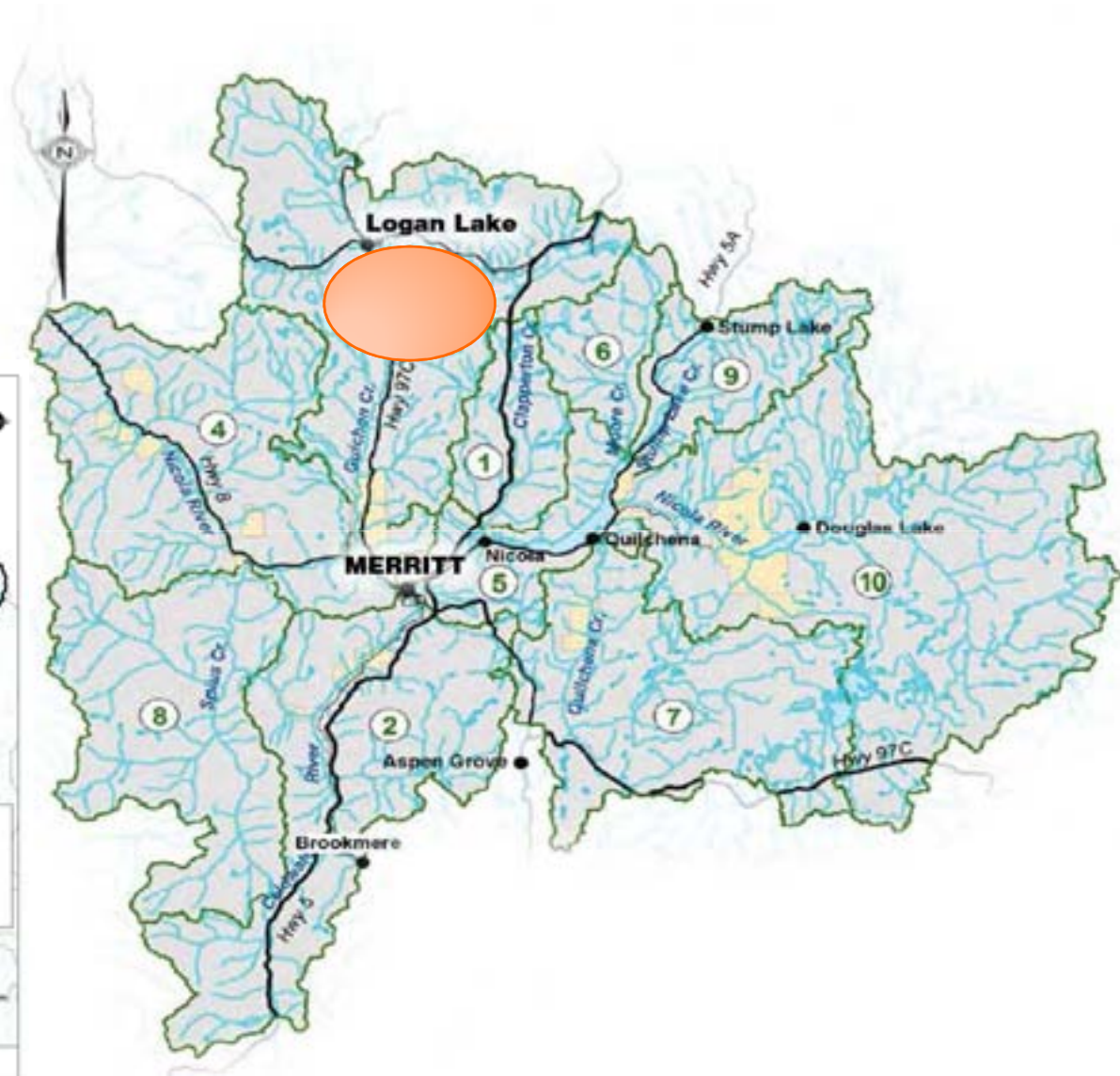
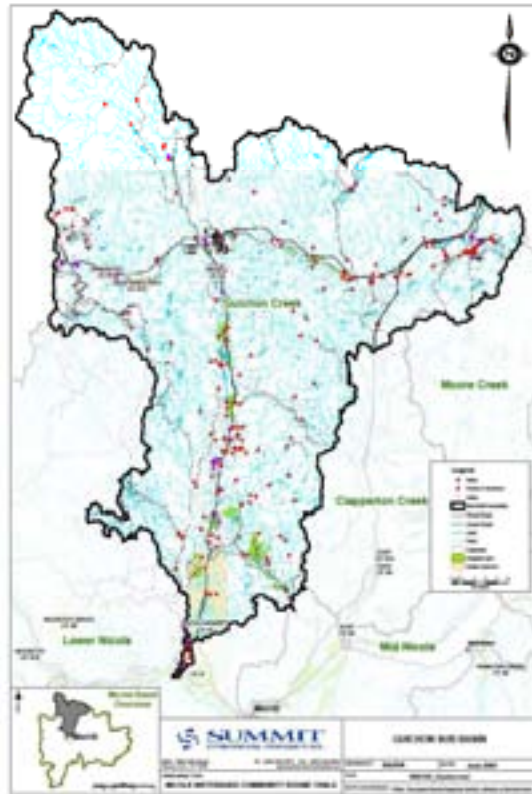
- Size:
728,000 hectares
1.8 million acres
7,220 square km
- Physiography
- Sub-basins: 10



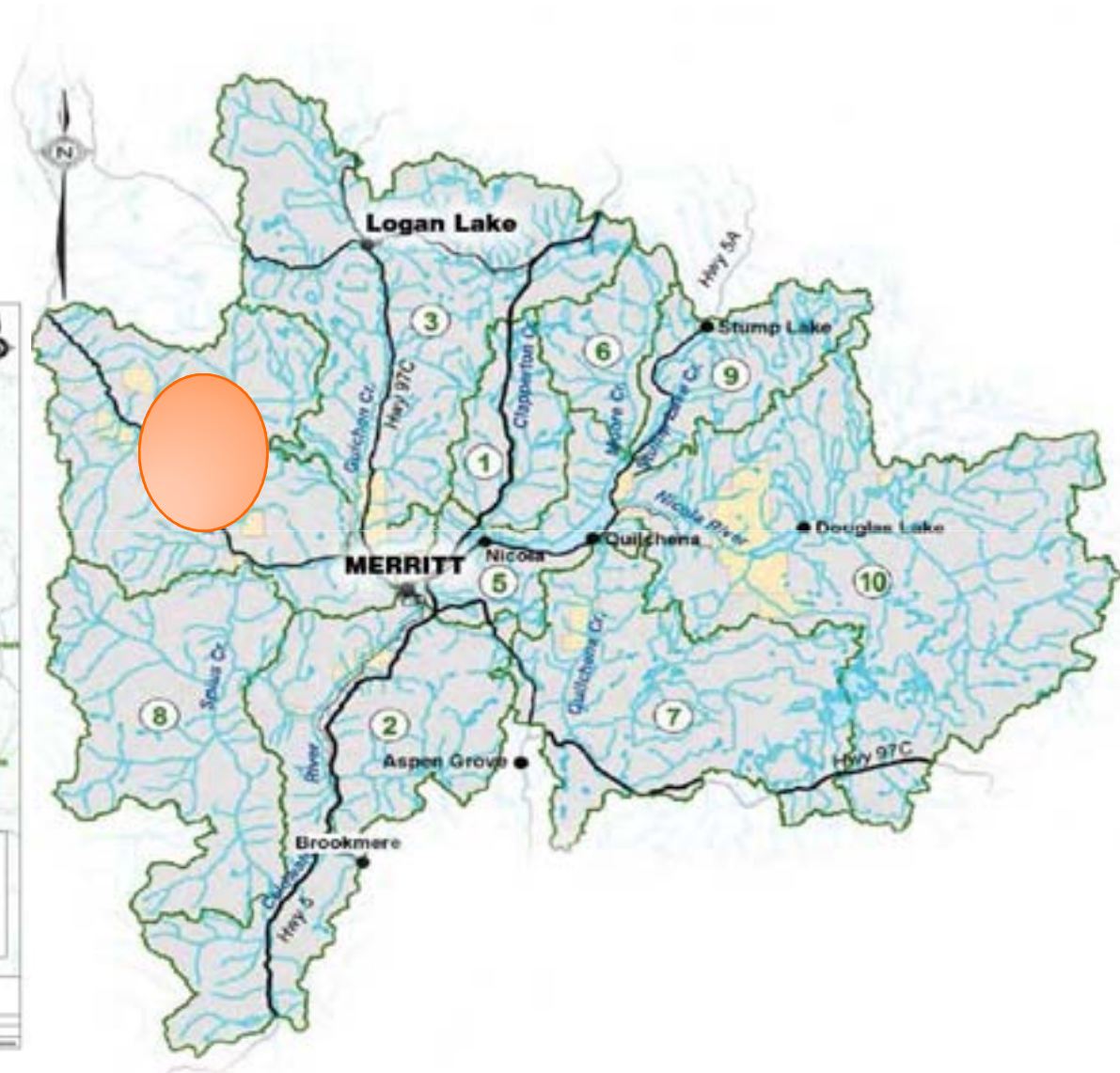
COLDWATER



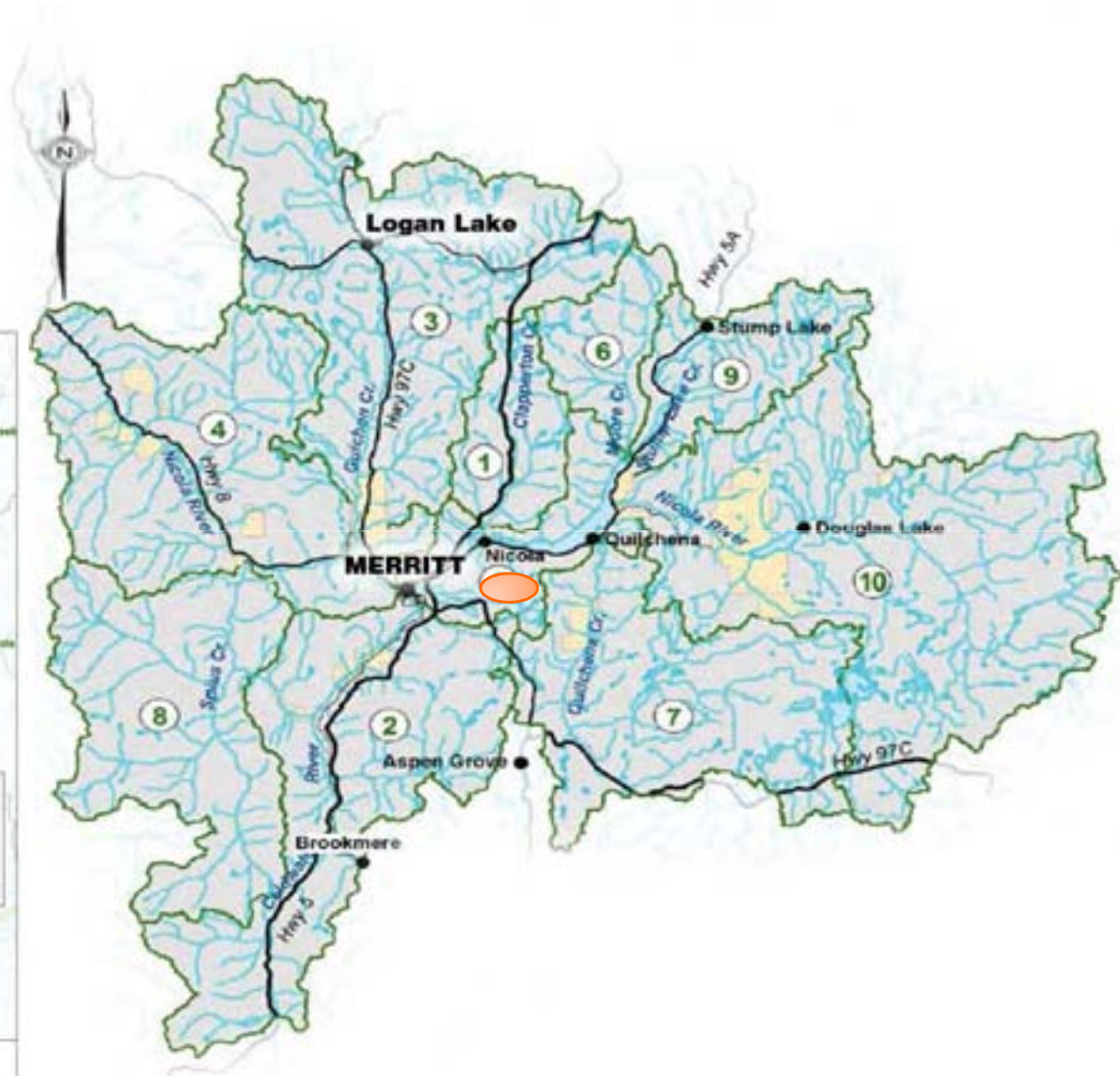
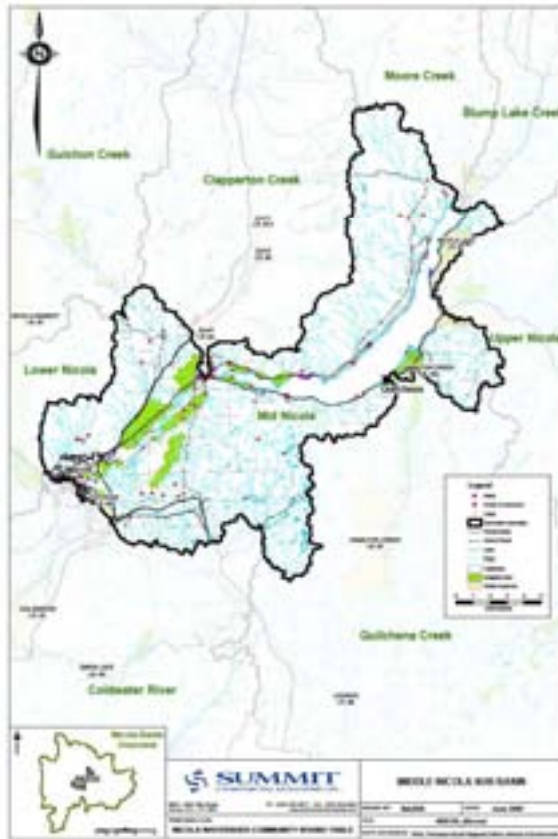
GUICHON



LOWER NICOLA



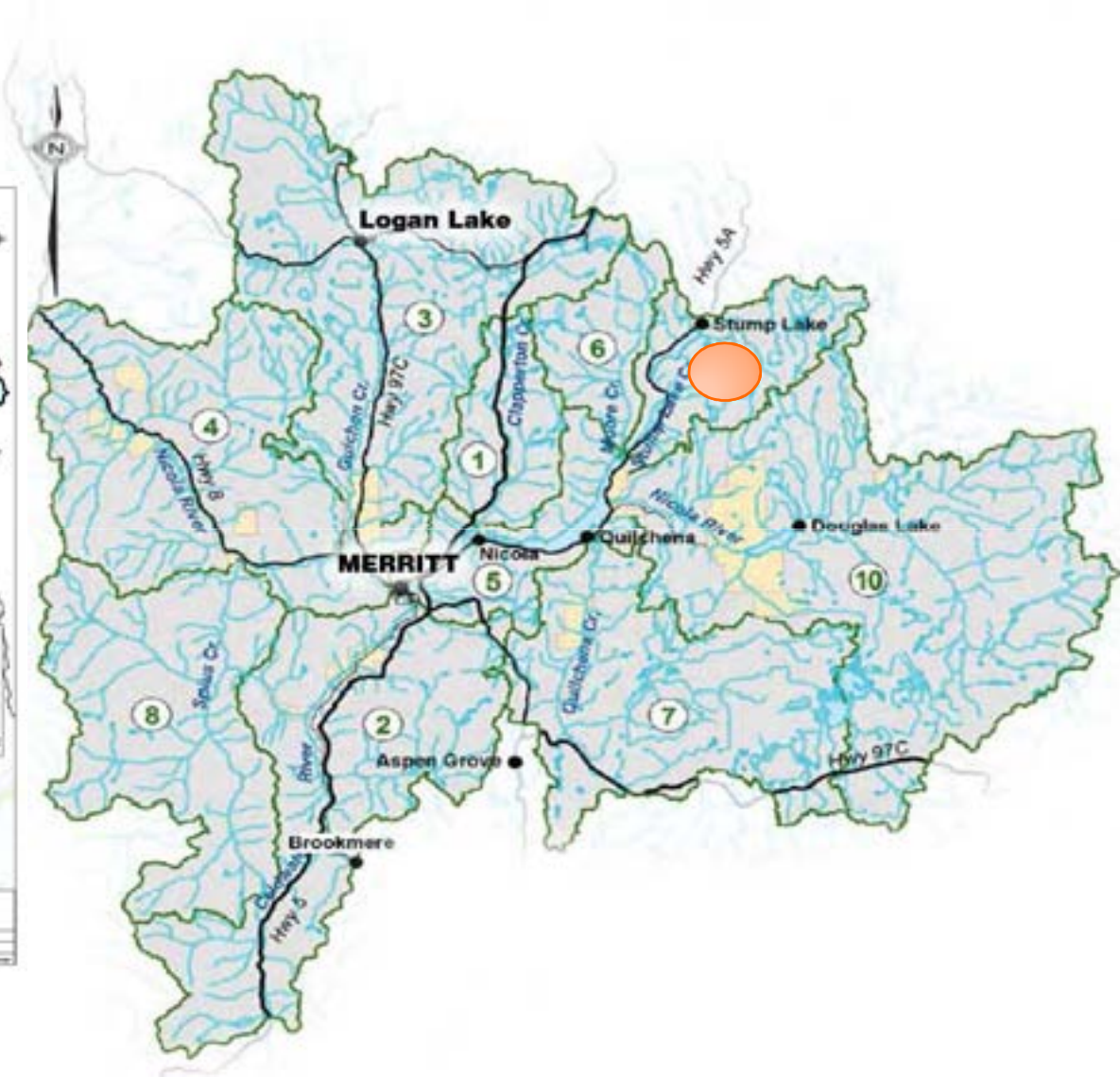
MID NICOLA



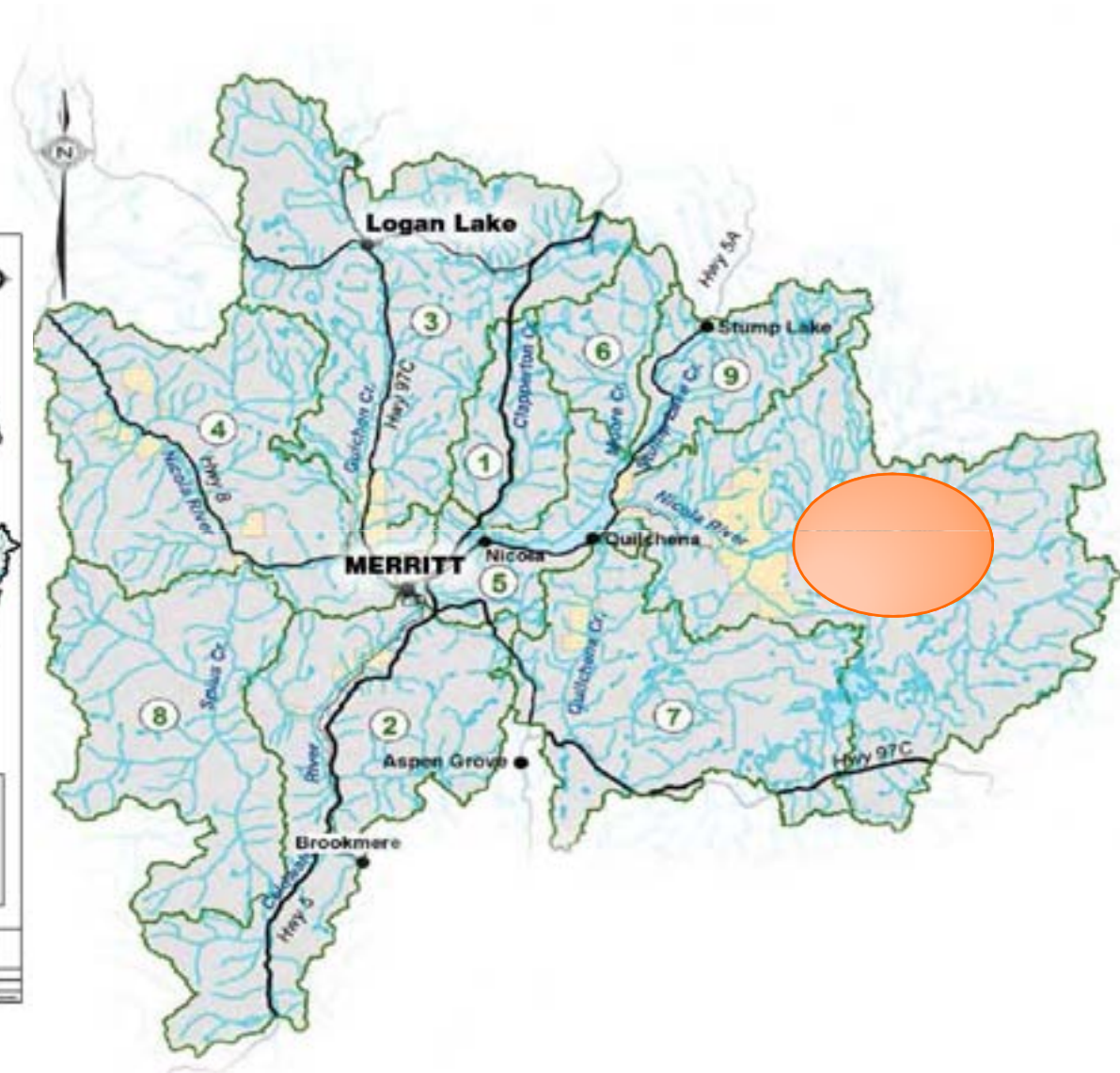
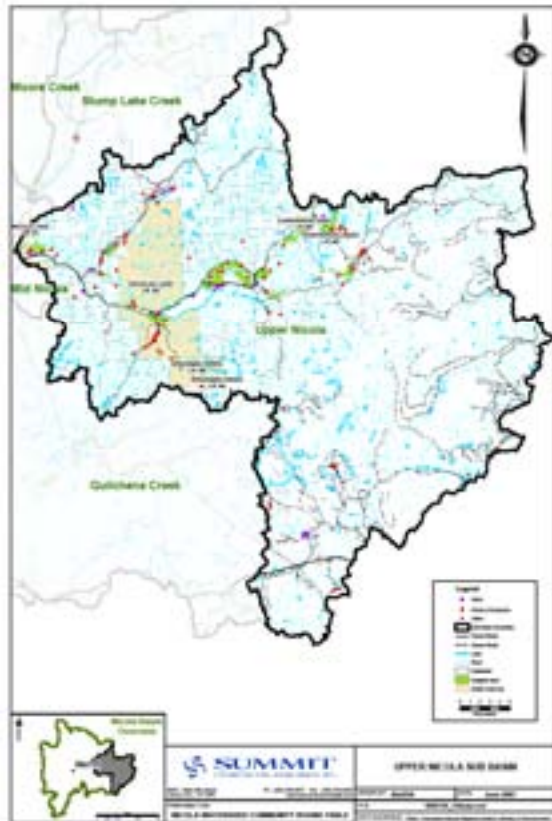
MOORE



STUMP



UPPER NICOLA



LAND USE

- 40+ ranches and hobby farms– agriculture is the largest water user
- Forestry operations – harvesting, processing and milling
- Mining – Highland Valley Copper, Craigmont Mines, exploration
- Communities – Business, commercial, residential, institutional
- Recreation – golf courses, city parks, provincial park, city parks, resorts, forest rec sites, etc.



WATER LICENSES BY SUB-BASIN

	m ³	% of Total
○ Clapperton	6,245,000	6%
○ Coldwater	10,015,000	10%
○ Guichon	20,416,000	21%
○ Lower Nicola	18,276,000	18%
○ Middle Nicola	6,568,000	7%
○ Moore	4,047,000	4%
○ Quilchena	7,689,000	8%
○ Spius	1,930,000	2%
○ Stump Lake	2,985,000	3%
○ Upper Nicola	20,928,000	21%
● TOTAL	99,099,000	100%



WATER LICENSES AND WATER USE



- Annual Licensed Quantity : 99,099,000 m³
 - % Agriculture 77%

- Estimated Annual Use (2006) – all sectors: 74,247,000 m³
 - % Agriculture 81%

- Estimated Annual Water Demand (2006)
 - all sectors: 53,288,000 m³
 - % Agriculture 76%

Source: Nicola River Watershed Present and Future Water Demand Study – June 2007, page 115



FUTURE WATER DEMAND

- by 2020 annual water demand is projected to be
 - 4% higher if low growth and no climate change
 - 10% higher with climate change and low growth
 - 43% higher with climate change and high growth



WATER BUDGET BY SUB-BASIN

In a 'normal' year

Current

Clapperton:	.078 m ³ /s
Guichon:	.506 m ³ /s
Upper Coldwater	3.975 m ³ /s
Lower Coldwater	5.557 m ³ /s
Lower Nicola	15.143 m ³ /s
Middle Nicola	3.361 m ³ /s
Moore	.051 m ³ /s
Quilchena	1.294 m ³ /s
Spius	5.380 m ³ /s
Stump Lake	- 0.167 m ³ /s
Upper Nicola	2.542 m ³ /s

Source: Nicola Watershed Budget Analysis – October 2008, page 10



MOUNTAIN PINE BEETLE

“...MPB infested area takes up a relatively small fraction of the total area (approx 8%) and likely will have little effect on the overall hydrology of the Nicola basin.”

*Source: Surface and Groundwater Supply and Interaction Study,
March 31, 2008 – page 39.*



WATER BUDGET BY SUB-BASIN

In a 'normal' year

	<i>Current</i>	<i>Year 2020</i>	<i>Year 2050</i>
Clapperton:	.078 m ³ /s	.106 m ³ /s	.090 m ³ /s
Guichon:	.506 m ³ /s	.300 m ³ /s	- .621 m ³ /s
Upper Coldwater	3.975 m ³ /s	4.171 m ³ /s	3.697 m ³ /s
Lower Coldwater	5.557 m ³ /s	5.863 m ³ /s	4.723 m ³ /s
Lower Nicola	15.143 m ³ /s	15.872 m ³ /s	12.541 m ³ /s
Middle Nicola	3.361 m ³ /s	3.382 m ³ /s	2.957 m ³ /s
Moore	.051 m ³ /s	.075 m ³ /s	.067 m ³ /s
Quilchena	1.294 m ³ /s	1.416 m ³ /s	1.181 m ³ /s
Spius	5.380 m ³ /s	5.920 m ³ /s	5.126 m ³ /s
Stump Lake	- 0.167 m ³ /s	0.155 m ³ /s	- .153 m ³ /s
Upper Nicola	2.542 m ³ /s	3.671 m ³ /s	2.448 m ³ /s

Source: Nicola Watershed Budget Analysis – October 2008, pages 10, 12 and 13.

NICOLA WATER USE MANAGEMENT PLAN

- 2003 Drought
- Water Forum - February 2004
- Designation of the Nicola River as the most endangered river in BC
- NV Stock Breeder's Assoc. Initiative (multi-phase water management plan/water supply project)
- MLA-sponsored Meetings – Nicola Dam Completion
- Charting Our Water Future – October 2004



NICOLA WATER USE MANAGEMENT PLAN

- Planning Process
 - Began – November 2004
 - Draft Plan – March 2009
 - Final Plan – March 2010

Structure

Multi-stakeholder Committee

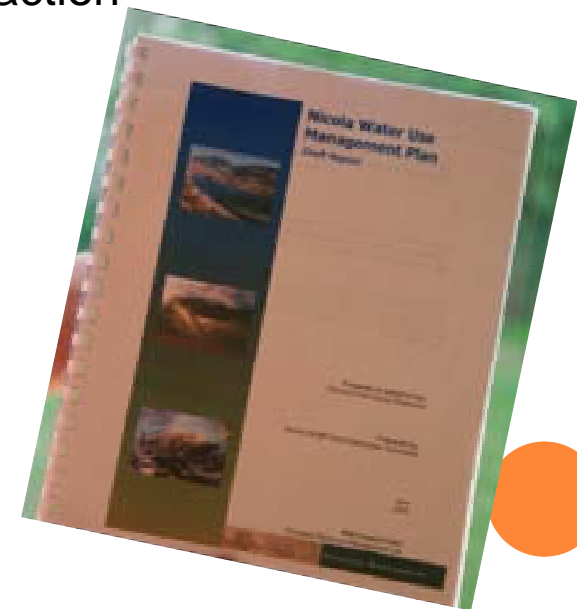
Steering Committee

Administrative support provided by the NWCRT



NICOLA WATER USE MANAGEMENT PLAN

- 4–phase planning process
 - Phase 1 – plan initiation
 - Phase 2 – plan development
 - Present and Future Water Demand
 - Surface and Groundwater Supply and Interaction
 - Water Budget
 - Evaluation of Additional Storage Sites
 - Phase 3 – plan evaluation and approval
 - Phase 4 – plan implementation



“Without water there is no life. The quantity, accessibility and quality of water have a direct bearing on the health, well-being, prosperity and sustainability of a region’s human, animal and plant populations.”

First two sentences of the Executive Summary of the Final Nicola Water Use Management Plan.

